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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,537	12/28/2000	Junichi Matsuda	P/2850-43	6950

7590 06/23/2004
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EXAMINER

CASIANO, ANGEL L

ART UNIT PAPER NUMBER

2182

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/750,537

Applicant(s)

MATSUDA, JUNICHI

Examiner

Angel L. Casiano

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-82 is/are rejected.
- 7) ☒ Claim(s) 1,26,29-32 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5-8.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The present Office action is in response to application dated 28 December 2000.
2. Claims 1-82 are pending.

Drawings

3. Figures 22-31 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1, 26, 29-32, and 37 are objected to because of the following informalities:
 - Claim 1 reads "storage means for storing a number of receiving node..." The cited passage should read "nodes".
 - Claim 26, line 8, should read "reset" instead of "rest".
 - Claim 29, line 2, should read "reset" instead of "rest".
 - Claim 30, line 8, should read "reset" instead of "rest".
 - Claim 31, line 4, should read "reset" instead of "rest".

Art Unit: 2182

- Claim 32, line 4, should read "reset" instead of "rest".
- Claim 37, line 4, should read "bridge" instead of "bride".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 5, 7, 9, 11, 13, 15, 17, 19, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Cioli et al. [US 6,510,151 B1].

Regarding claim 1, Cioli et al. teaches a bridge for interconnecting together buses, each of which interconnects nodes in a data network (see Figures 1A-C). The reference (see Figure 2) includes storage means for storing a number or receiving nodes with respect to *each* of connections being established (see column 2, lines 46-47; column 7, lines 35-42).

Regarding claim 5, Cioli et al. teaches a communication path control method (see Abstract), including a bridge for interconnecting together buses, each of which interconnects nodes in a

Art Unit: 2182

data network (see Figures 1A-C). The reference (see Figure 2) includes storage means for storing a number or receiving nodes with respect to *each* of connections being established (see column 2, lines 46-47; column 7, lines 35-42). In addition, the reference teaches establishing or disconnecting communication paths (see “connection”; column 5, line 39; column 7, lines 5-7; column 9, lines 62-67) by increasing or decreasing the number stored in the storage means.

As for claims 7 and 9, Cioli et al. teaches a method having a bridge, for receiving stream packets (see Title, Abstract) from a bus. The reference also includes a number of counters (see Figure 7). A connection counter is disclosed (see column 9, line 65), where if a number is “0” (less than one), the connection is unprogrammed (and packets are not received, as claimed).

As per claim 11, Cioli et al. explicitly teaches searching the portals of the bridge and *incrementing* the counter by “1” to establish a communication path (see column 9, lines 54-59).

As per claim 13, Cioli et al. teaches decrementing (decreasing) the counter by “1” to release the communication path.

As per claim 15, the counter in the cited reference is changed by “1” (see column 9, line 59; Figure 6) after completion of a search of the bridge in the communication path.

As per claim 17, the process of changing the counter by “1” is repeated from one end to the other in a communication path (see column 9, lines 41-61).

As for claim 19, Cioli et al. explicitly teaches a communication path control method where a control means searches depending on the communication path and *changes a counter* in value under a request (see “switch”, column 5, lines 41-45).

As for claim 21, Cioli et al. explicitly teaches storing identifiers (see column 7, lines 26-33 and 40) as part of the communication path control method. The connections are established or released based on the identifiers.

7. Claims 3-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Kato [IDS].

Regarding claim 3, the cited reference teaches a device controller for controlling communication in a data network (see Abstract; Page 2, lines 15-24; Figures 1-6). In addition, the reference teaches storage for a number of receiving nodes with respect to *each of the connections being established* between nodes interconnected together (see Figures 13 and 14, “node-ID”; Page 12, lines 18-21; Page 13, lines 10-11).

As for claim 4, Kato teaches buses based on the IEEE 1394 standard (see Figure 4; Page 5, lines 10-14; Page 7, lines 19-24; Page 8, line 14).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2, 23, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cioli et al. [US 6,510,151 B1] in view of Hulyalkar [US 6,032,261].

As per claim 2, Cioli et al. teaches a bridge for interconnecting together a plurality of buses. Nonetheless, the cited prior art does not teach the buses as based on the IEEE 1394 standard. Regarding this limitation, Hulyalkar teaches buses based on the IEEE 1394 standard (see Abstract). Accordingly, one of ordinary skill in the art would have been motivated to combine the cited references at the time of the invention, since the IEEE 1394 standard "defines a serial bus technology for interconnecting consumer electronics and computer products, such as digital TV, PCs, digital VCRs, digital camcorders, printers, fax machines, etc." (see Hulyalkar, column 1, lines 13-30).

As for claim 23, Cioli et al. teaches a communication path control method as disclosed in claim 11. In addition, the reference teaches obtaining transfer information from a portal on a bridge (see column 5, lines 40-45). The cited prior art teaches designating a portal for providing transfer information (see column 7, lines 35-42) for packets to a receiving node of a receiving bus on a

Art Unit: 2182

communication path (see column 8, lines 20-57). Nonetheless, it does not explicitly mention asynchronous packets based on an IEEE 1394 standard. Hulyalkar teaches buses based on the IEEE 1394 standard (see Abstract). Accordingly, one of ordinary skill in the art would have been motivated to combine the cited references at the time of the invention, since the IEEE 1394 standard "defines a serial bus technology for interconnecting consumer electronics and computer products, such as digital TV, PCs, digital VCRs, digital camcorders, printers, fax machines, etc." (see Hulyalkar, column 1, lines 13-30).

As per claim 35, Hulyalkar teaches buses based on the IEEE 1394 standard (see Abstract) where asynchronous (see column 1, line 25; column 2, lines 51-56) packets are transmitted. In addition, Cioli et al. teaches disconnecting a communication path (see Figure 7). It also teaches a determination that the bus is disconnected from the data network (see Figure 7, steps "72", "73").

10. Claims 25, 27, 29, 31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cioli et al. [US 6,510,151 B1] in view of Lawande et al. [US 6,219,697 B1].

As for claim 25, Cioli et al. teaches a communication path control method as disclosed in claim 9. Nonetheless, the cited art does not teach the occurrence of a "bus reset", as presently claimed. Regarding this limitation, Lawande et al. teaches a "bus reset", where the occurrence of the reset is detected (see column 12, lines 39-46). The nodes in the cited reference remain connected regardless of the bus reset (see column 12, lines 61-63). At the time of the invention, one of

Art Unit: 2182

ordinary skill in the art would have been motivated to combine the cited disclosures in order to “prevent disturbances in the on-going traffic” while “keeping the ability to insert or remove a node from the network with out affecting data traffic between other nodes in the network” (see column 12, lines 59-61).

As per claims 27 and 29, Cioli et al. does not explicitly teach detection as to whether resource re-securement fails and disconnection of the communication path if re-securement fails. Regarding this limitation, Lawande et al. teaches a “bus reset”, where the occurrence of the reset is *detected* (see column 12, lines 39-46). The nodes in the cited reference remain connected regardless of the bus reset (see column 12, lines 61-63) and connections are re-secured after the reset. However, this reference does not cite “disconnection” of the communication path in case re-securement fails. Cioli et al. explicitly teaches disconnection (see column 9, line 62) and removal of a communication path. Therefore, the combination of references teaches the limitations in terms of re-securement after bus reset and disconnection of a communication path. As stated above, one of ordinary skill in the art would have been motivated to combine the cited disclosures in order to “prevent disturbances in the on-going traffic” while “keeping the ability to insert or remove a node from the network with out affecting data traffic between other nodes in the network” (see column 12, lines 59-61).

As for claim 31, Cioli et al. does not teach a method including the step of “requesting at least one node connected on the specific bus to make a communication upon detection of the bus reset”, as claimed. Nonetheless, Lawande et al. teaches a communication made *upon detection of the bus*

Art Unit: 2182

reset (see Figure 6A; column 12, lines 41-46). In addition, Cioli et al. does not cite “disconnection” of the communication path. Cioli et al. explicitly teaches disconnection (see column 9, line 62) and removal of a communication path. Accordingly, the combination of references teaches the limitations in terms of re-securement after bus reset and disconnection of a communication path.

As per claim 33, Cioli et al. does not teach a “bus reset” or detection as to whether the transmitting node and receiving node do not remain connected. Lawande et al. teaches the occurrence of a bus reset on a specific bus, which is part of a communication path established in advance (see Figure 6A). Lawande et al. also teaches a “bus reset”, where the occurrence of the reset is *detected* (see column 12, lines 39-46). The reset is disclosed to include the insertion or removal (disconnection) of a node. Lawande et al. teaches that the nodes remain connected regardless of the bus reset (see column 12, lines 61-63) and connections are re-secured after the reset. However, Lawande et al. does not cite “disconnection” of the communication path. Cioli et al. explicitly teaches disconnection (see column 9, line 62) and removal of a communication path. Therefore, the combination of references teaches the limitations in terms of detection and re-securement after bus reset and disconnection of a communication path.

11. Claims 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cioli et al. [US 6,510,151 B1] in view of Lawande et al. [US 6,219,697 B1] in further view of Kato [IDS].

Art Unit: 2182

Regarding claims 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, and 36, these correspond to the communication path control method disclosed in claims 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, and 35. The present claims differ from the mentioned group since these recite “one bridge *under control of at least one device controller* installing a storage means”. As stated in claims 3-4, Kato teaches all the limitations corresponding to the device controller installing a storage means. Therefore, the present claims are rejected under the same rationale (see rejections for claims under Cioli et al. in view of Lawande et al.).

12. Claims 37-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cioli et al. [US 6,510,151 B1] in view of Kato [IDS] in further view of applicant's admission of prior art [AAPA].

Regarding claim 37, Cioli et al. teaches a bridge having portals for interconnecting together buses, each of which interconnects nodes in a data network (see Figures 1A-C). The reference (see Figure 2) includes storage means for storing a connection counter (see “number”) or receiving nodes with respect to *each* of connections being established (see column 2, lines 46-47; column 7, lines 35-42). Cioli et al. explicitly teaches searching the portals of the bridge and *incrementing* the counter by “1” to establish a communication path (see column 9, lines 54-59) as well as decrementing (decreasing) the counter by “1” to release the communication path. However, the cited reference does not teach a device controller, as claimed. Kato teaches a device controller for controlling communication in a data network (see Abstract; Page 2, lines 15-24; Figures 1-6). In addition, the reference teaches storage for a number of receiving nodes

Art Unit: 2182

with respect to *each of the connections being established* between nodes interconnected together (see Figures 13 and 14, “node-ID”; Page 12, lines 18-21; Page 13, lines 10-11). At the time of the invention, one of ordinary skill in the art would have been motivated to combine the cited disclosures in order to enable an information processing apparatus coupled to a network having a plurality of information processing apparatuses coupled to be operated in order to perform I/O connection setting (see Kato). The combination of references does not explicitly include “a plurality of buses each of which installs at least one node as an isochronous resource manager (IRM) based on an IEEE 1394 standard”, as claimed. Nonetheless, the combination of prior art does teach communication according to the IEEE 1394 standard (see Kato). AAPA teaches that an isochronous resource manager (IRM), which is connected with a bus, based on the IEEE 1394 standard (see page 67, lines 1-3). The present description is cited as “conventional procedures for establishment of a point-to-point connection between audio/visual devices” (see Figure 26; Page 6, lines 24-25 of applicant’s Specification). Therefore, since the cited IRM is part of a “conventional” configuration under IEEE 1394, it would have been obvious to one of ordinary skill in the art to incorporate this into the system resulting from the combination of references, since this system teaches communication among audio/visual devices according to IEEE 1394.

As for claims 38-42, these are directed to implement the communication path control system for the communication control method disclosed in previous claims. The cited method claims are rejected in the present Office action. Therefore, the present system claims are rejected under the same rationale.

Art Unit: 2182

13. Regarding dependent claims 43-82, these constitute the same limitations as previously rejected claims (see rejections for claims 11, 13, 15, 17, 19, 21, 23 and 35). The prior art cited in the Office action teaches or suggests all the limitations corresponding to these dependent claims and their corresponding parent claims. Therefore, claims 43-82 are rejected under the same rationale.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Tokura et al. [US 6,654,353 B1] teaches a loop detection method. In addition, teaches *changes* in a network being *detected* by nodes A and B, which therefore send *bus reset* signals (see Figure 12).
- Matsumaru et al. [US 6,594,239 B1] teaches that IEEE 1394 standardizes the execution of initialization of a serial bus referred to as a "*bus reset*", *when another node is newly connected to node groups already connected* to each other through the serial buses.
- Takeda et al. [US 6,512,767 B1] discloses that a node connected to *IEEE 1394* can detect a change in the *node ID* before and after a *bus reset*, by using a number which is specific to a node and which is contained in a configuration ROM.
- Arima [US 6,505,303 B1] teaches detection of a communication disable node.
- Fukui [US 6,131,119] teaches automatic configuration system in an IEEE 1394 network.
- Murakoshi et al. [US 6,122,248] discloses identification data for each node according to the IEEE 1394 standard.

Art Unit: 2182


- Okazaki [JP 11163912 A] teaches device and method for network control.

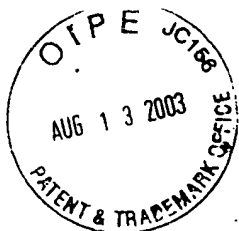
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel L. Casiano whose telephone number is 703-305-8301. The examiner can normally be reached on 9:30-6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-3301. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

alc
21 June 2004.


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100



PTO/SB/08a/b (06-03)

Approved for use through 07/31/2003. OMB 0651-0031

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Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	09/750,537
				Filing Date	December 28, 2000
				First Named Inventor	Junichi Matsuda
				Art Unit	Not Yet Assigned 2182
				Examiner Name	Not Yet Assigned A. CASIANO
Sheet	1	of	1	Attorney Docket Number	X2850.0043/P043

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			

FOREIGN PATENT DOCUMENTS						
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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
all	BA	EP 1 134 937 A1	09/19/2001			

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NON PATENT LITERATURE DOCUMENTS			
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Angelita Lai
date considered: 06/16/04

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			First Named Inventor	Junichi Matsuda	
			Group Art Unit	Not Yet Assigned 2182	
			Examiner Name	Not Yet Assigned A. Carreau	
Sheet	1	of	1	Attorney Docket Number	X2850.0043/P043

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au	BA	JP 11-688849	03/09/1999			

Examiner Signature		Date Considered	06/16/04
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au	CA	Copy of Japanese Office Action dated April 1, 2003 (and English translation of relevant portion)	

Examiner Signature		Date Considered	06/16/04
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				Examiner Name	Not Yet Assigned A. Casen
Sheet	1	of	1	Attorney Docket Number	X2850.0043/P043

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acc	BB	JP	11-261606	09/24/1999			
acc	BC	JP	11-205373	07/30/1999			
acc	BD	JP	2001-103085	04/13/2001			

Examiner Signature		Date Considered	06/16/04
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¹ Applicant's unique citation designation number (optional). ² See attached Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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acc	CA	Copy of Japanese Office Action dated January 7, 2003 (and English translation of relevant portion)	

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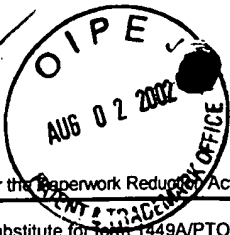
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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Complete if Known	
				Application Number	09/750,537
				Filing Date	December 28, 2000
				First Named Inventor	Junichi Matsuda
				Art Unit	2182
				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	X2850.0043/P043

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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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FOREIGN PATENT DOCUMENTS						
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	CA	European Office Action dated May 2, 2002	
	CB	European Search Report	

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